

**GOVERNMENT OF INDIA  
AGRICULTURE AND FARMERS WELFARE  
LOK SABHA**

UNSTARRED QUESTION NO:6089  
ANSWERED ON:11.04.2017  
Impacts of Climate Change on Agriculture  
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**Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:**

- (a) whether sudden change in weather pattern has resulted in crop damage, poor yield and loss of income to the farmers;
- (b) if so, the total loss incurred by farmers during each of the last three years and the current year in each State/UT on this account;
- (c) whether the sudden change of climate has also resulted in heavy rains, deficient rains, drought etc., if so, the regions prone to this abnormal weather patterns affecting agriculture and the farmers; and
- (d) the contingency plan drawn by Government to overcome climate change?

**Answer**

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FARMERS WELFARE

???? ???? ???? ???? ???? ???? ???? ???? (SHRI PARSHOTTAM RUPALA)

(a): As per the Ministry of Earth Science, there is no evidence of change in weather pattern over the country. However, there have been extreme weather events in the recent past including extended dry periods, floods, hailstorm, cyclonic rains and winds etc., which caused damage to standing crops and ultimately poor yield of crops.

(b): The State Government primarily assesses the losses incurred to the farmers on account of crop damage and poor yield due to extreme climatic events and submit memorandum to Government of India for providing relief to the farmers. The assistance sought by different State Governments during the last three years and current year on this account is given at Annexure-I.

(c): As per the, Ministry of Earth Sciences, analysis of past more than 100 years of data by the scientist of India Meteorological Department and other institutions has found significant changes in the rainfall pattern, extreme events etc. Both flood and drought are part of natural climate variability and occurrences of flood or drought in individual years does not depend on climate change. However, due to climatic aberrations, the spatial variability, intensity and frequency of extreme events like heavy rainfall have increased. Unseasonal/heavy rains accompanied with hailstorm, cyclone etc. has affected the following States enlisted below;

Contdâ€2/-  
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State Event

Gujarat, Rajasthan, West Bengal, Odisha, Manipur, Meghalaya and Jharkhand Flood due to Heavy rainfall  
Rajasthan, Uttar Pradesh, Haryana, Madhya Pradesh, Maharashtra and Punjab Rain accompanied with hailstorm  
Bihar, Odisha, Andhra Pradesh, Gujarat, Tamil Nadu and Kerala Heavy rain due to cyclone  
Bihar, Karnataka, Andhra Pradesh, Haryana, Uttar Pradesh, Maharashtra, Chattisgarh, Odisha, Telangana, Jharkhand, Rajasthan and Uttarakhand Drought

Indian Council of Agricultural Research (ICAR) - Central Research Institute for Dryland Agriculture (CRIDA) has also mapped 572 districts of the country for their vulnerability to extreme events due to climate change. The vulnerability was assessed high to very high in 230 districts, medium in 114 districts and low to very low in 228 districts.

(d): CRIDA of ICAR has prepared district wise contingency plan for 623 districts. Under contingency plan, the States are advised to initiate various interventions to minimise the impact of such extreme climatic events. Besides, to insulate farmers against the loss of crop due to natural calamities, Government of India has launched Pradhan Mantri Fasal Bima Yojana (PMFBY) from Kharif 2016-17.